



A.D. 1862, 26th DECEMBER. N° 3455.

S P E C I F I C A T I O N

OF

JOHN SWAINSON THE YOUNGER.

PILL BOXES.

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A.D. 1862, 26th DECEMBER. N° 3455.

Pill Boxes.

LETTERS PATENT to John Swainson, the younger, of Newton Stewart, in the County of Wigton, North Britain, Wood Agent, for the Invention of "IMPROVEMENTS IN THE MANUFACTURE OF PILL BOXES AND SIMILAR BOXES FROM SOLID WOOD, AND IN MACHINERY TO BE EMPLOYED IN THE SAID MANUFACTURE."

Sealed the 5th June 1863, and dated the 26th December 1862.

PROVISIONAL SPECIFICATION left by the said John Swainson at the Office of the Commissioners of Patents, with his Petition, on the 26th December 1862.

I, JOHN SWAINSON, the younger, of Newton Stewart, in the County of
5 Wigton, North Britain, Wood Agent, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE MANUFACTURE OF PILL BOXES AND SIMILAR BOXES FROM SOLID WOOD, AND IN MACHINERY TO BE EMPLOYED IN THE SAID MANUFACTURE," to be as follows :—

My Invention consists of the improvements in the manufacture of pill boxes
10 and similar boxes from solid wood lengths, and in the machinery employed in the said manufacture herein-after described, by which said improvements great saving of wood and labour are effected.

In making pill boxes and similar boxes according to my Invention I cut the wood into short lengths, the said lengths being somewhat greater than the
15 length of the boxes to be made, and I afterwards turn the exterior of the said

Swainson's Improvements in the Manufacture of Pill Boxes.

lengths to the size required by means of a turning machine, commonly called a thread bobbin machine, the said machine also fashioning one end of the wood length for the reception of the box lid. I next place the said turned lengths in the holder of the machine herein-after described, and by means of the said machine I bore or cut out the inside of the wood lengths to the required depth. 5 Pill boxes or similar boxes are thus manufactured and are ready for the reception of the lids, the said lids being made by turning the exterior and boring out the interior of short wood lengths in the manner described with respect to boxes.

The machine or lathe by which I bore or cut out the interior of the cylindrical wood lengths in order to make boxes and lids therefrom is constructed 10 essentially as follows:—A horizontal spindle working in headstocks on the bed of the machine carries at one end a boring bit of the ordinary form. The said spindle may either be fixed or capable of sliding in its bearings. In a line with the axis of the said bit a holder made in halves is supported. This holder is carried in an upright fixed on the end of a horizontal slide, working on a 15 dovetail on the bed of the lathe or machine. The lower half of the holder is dropped into a recess made in the said upright to receive it, and the upper half of the said holder is fixed in a vertical slide working on a dovetail in the said upright. By means of a screw and handle the said slide carrying the moveable half of the holder can be raised from or brought down upon the fixed 20 half in the upright. A short cylindrical length from which a box or lid is to be made is placed in the lower and fixed half of the holder; the moveable half is then brought down upon the said fixed one, and the wood length securely held in the said holder. A rapid rotatory motion being communicated to the boring bit, the slide carrying the upright and in which the holder is fixed is 25 moved forward on its dovetail by means of a handle, and the wood length in the holder pressed against the rotating boring bit, and the inside of the said wood length bored or cut out by the said bit. The required depth of boring having been effected, the slide is moved from the boring bit, and the box or lid removed from the holder by means of a rod which passes through the back 30 of the said holder. The machine may either work horizontally or vertically. Holders of the kind described having different diameters are employed with corresponding sized boring bits to manufacture different sized pill and similar boxes.

Although I prefer to employ the machine herein-before described to bore or 35 cut out the interior of the wood lengths, yet other machines may be employed for the same purpose.

Swainson's Improvements in the Manufacture of Pill Boxes.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said John Swainson in the Great Seal Patent Office on the 15th June 1863.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOHN SWAINSON, the younger, of Newton Stewart, in the County of Wigton, North Britain, Wood Agent, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-sixth day of December, in the year of our Lord One thousand eight hundred and sixty-two, in the twenty-sixth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said John Swainson, Her special licence, that I, the said John Swainson, my executors, administrators, and assigns, or such others as I, the said John Swainson, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for “**IMPROVEMENTS IN THE MANUFACTURE OF PILL BOXES AND SIMILAR BOXES FROM SOLID WOOD, AND IN MACHINERY TO BE EMPLOYED IN THE SAID MANUFACTURE,**” upon the condition (amongst others) that I, the said John Swainson, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said John Swainson, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say:—

My Invention consists of the improvements in the manufacture of pill boxes and similar boxes from solid wood lengths, and in the machinery employed in the said manufacture herein-after described, by which said improvements great saving of wood and labour are effected.

In making pill boxes and similar boxes according to my Invention, I cut the wood into short lengths, the said lengths being somewhat greater than the length of the boxes to be made, and I afterwards turn the exterior of the said lengths to the size required by means of a turning machine commonly called a thread bobbin machine, the said machine also fashioning one end of the wood

Swainson's Improvements in the Manufacture of Pill Boxes.

length for the reception of the box lid. I next place the said turned lengths in the holder of the machine herein-after described, and by means of the said machine I bore or cut out the inside of the wood lengths to the required depth. Pill boxes or similar boxes are thus manufactured, and are ready for the reception of the lids, the said lids being made by turning the exterior and boring out the interior of short wood lengths in the manner described with respect to boxes. 5

The machine or lathe by which I bore or cut out the interior of cylindrical wood lengths, in order to make boxes and lids therefrom, is constructed essentially as follows:—A horizontal spindle working in headstocks on the bed of the machine, carries at one end a boring bit of the ordinary form. The said spindle may either be fixed or capable of sliding in its bearings. In a line with the axis of the said bit a holder made in halves is supported. This holder is carried in an upright, fixed on the end of a horizontal slide working on a dovetail on the bed of the lathe or machine. The lower half of the holder is dropped into a recess made in the said upright to receive it, and the upper half of the said holder is fixed in a vertical slide, working on a dovetail in the said upright. By means of a screw and handle the said slide carrying the moveable half of the holder can be raised from or brought down upon the fixed half in the upright. A short cylindrical wood length from which a box or lid is to be made is placed in the lower and fixed half of the holder; the moveable half is then brought down upon the said fixed one, and the wood length securely held in the said holder. A rapid rotatory motion being communicated to the boring bit, the slide carrying the upright, and in which the holder is fixed, is moved forward on its dovetail by means of a handle, and the wood length in the holder pressed against the rotating boring bit and the inside of the said wood length bored or cut out by the said bit. The required depth of boring having been effected, the slide is moved from the boring bit, and the box or lid removed from the holder by means of a rod which passes through the back of the said holder. The machine may either work horizontally or vertically. Holders of the kind described having different diameters are employed with corresponding sized boring bits to manufacture different sized pill and similar boxes. 15 20 25 30

Having explained the nature of my Invention, I will now proceed to describe, with reference to the accompanying Drawing, the manner in which the same is to be performed. 35

In manufacturing pill boxes according to my Invention, I take short cylindrical lengths of wood of the kind represented in edge view and plan in Figure 1 of the Drawing, and I reduce or turn the exterior of the said lengths

Swainson's Improvements in the Manufacture of Pill Boxes.

to the size represented in edge view and plan in Figure 2, and afterwards to that represented in edge view and section in Figure 3, the last named turning reducing the size and fashioning the end at *a* of the wood lengths for the reception of the lids in the finished boxes. I effect the turning of the exterior
5 of the wood lengths, Figures 2 and 3, by means of a turning machine commonly called a thread bobbin machine, but other turning machines may be used for that purpose. I next place the turned length Figure 3 in the holder of the machine represented in the Drawing, and by means of the boring bit of the said machine, I bore or cut out the inside of the said length to the required
10 extent. A pill box ready for the reception of the lid is thereby manufactured as represented in section and plan in Figure 4.

In manufacturing lids for the said boxes, I take short lengths of the form represented in Figure 5, and I reduce or turn them to the size represented in Figure 6, and afterwards bore or cut out the inside of the said lengths
15 Figure 6, by means of the machine represented in the Drawing, and thereby form lids. A lid for the box Figure 4 made from the wood length Figure 6, is represented in section in Figure 7. Pill and other similar boxes of various sizes are manufactured from solid wood lengths in the way just described and represented.

20 The machine which I prefer to employ for boring or cutting out the inside of wood lengths which have been previously turned or fashioned externally, in order to manufacture boxes and lids therefrom is represented in Figures 8 and 9 of the Drawing, Figure 8 representing a side elevation of the said machine, and Figure 9 an end elevation of a portion of the same. The same
25 letters indicate the same parts in Figures 8 and 9; *b* is the horizontal spindle of the machine working in headstocks *c, c*, fixed to the bed *d*. The said spindle *b* carries at one end the boring bit *e*. Rapid rotatory motion is communicated to the said spindle *b* and boring bit *e* by a band *h* from the pulley *i* passing over the fast pulley *g* of the fast and loose pulleys *g, g*². Motion is given to the pulley *i*
30 from a steam engine or other source of power. An upright *k* connected with the slide *l* carries in it a holder *m, m*², made in halves, as represented; the said holder *m, m*², consisting of a rectangular frame, having in its middle a circular depression or recess of the size of the box to be manufactured. The slide *l* is capable of motion in a horizontal plane upon the dovetail *l*² fixed on
35 the bed *d* of the machine. This horizontal motion of the slide *l* is effected by the frame or handle *n*. The said frame or handle *n* turns on a pin or centre at *n*² on either side the fixed dovetail *l*², and is connected to the slide *l* through the pins and slots at *l*³ on either side the said slide *l*. One half *m*² of the holder *m, m*², is dropped into a rectangular recess at *k*² in the upright *k*,

Swainson's Improvements in the Manufacture of Pill Boxes.

and the other half m is fixed in a vertical slide o working on dovetails in the upper part of the said upright k . The vertical slide o is raised or lowered in the upright k by turning the screw p by the handle q in one or other direction. That half of the holder carried by the said slide o is thereby raised from or brought down upon the other fixed half in the upright k . In Figure 9 the two parts of the holder are shewn slightly separated, in order to introduce a wood length between them, and in Figure 8 the said parts of the holder are shewn in contact, so as to hold the wood length firmly between them. The short cylindrical length, Figure 3, or Figure 6, being placed in the lower and fixed half m^2 of the holder m , m^2 , the handle q is turned, and the moveable half m brought down upon the fixed one m^2 , and the wood length thereby securely fixed in the holder. A rapid rotatory motion being given to the boring bit e , the slide l is moved forward by moving the handle n , and the wood length in the holder m , m^2 , pressed gradually against the rotating bit e , and the inside of the said wood length bored or cut out by the said bit to the required extent, and a box, Figure 4, or a lid, Figure 7, thereby made. The boring out having been effected, the slide l is withdrawn from the bit e by the handle n , and the finished box or lid removed from the holder by means of the rod r , which is passed through the axis of the holder at the back thereof, the said rod being pushed forward by hand. A screw stop s is placed in front of the slide l , in order accurately to adjust the distance to which the said slide shall be moved against the boring bit e , and thus determine the depth of boring of the wood length under operation. Instead of making the headstocks c , c , carrying the spindle b fixed, and giving a sliding motion to the upright k supporting the holder, the said upright k may be fixed on the bed of the machine, and the required sliding motion be given to the headstocks c , c , by an arrangement of parts similar to that described and represented for giving motion to the upright k ; but I prefer to carry my Invention into effect in the manner already described and represented in the Drawing.

Figure 10 represents a series of holders differing in size from that described and represented in the machine, Figures 8 and 9. When the said holders, Figure 10, are respectively used in the said machine, boring bits of the proper size are used with the said holders.

Although I prefer to employ the machine herein-before described and illustrated in the Drawing to bore or cut out the interior of the wood lengths, yet other machines may be employed for the same purpose.

Having now described the nature of my Invention, and the manner in which the same is to be performed, I wish it to be understood that I do not limit myself to the precise details herein described, as the same may be varied

Swainson's Improvements in the Manufacture of Pill Boxes.

without departing from the nature of my Invention; but I claim as my Invention,—

Firstly, the improvement or improvements in the manufacture of pill boxes and similar boxes from solid wood, herein-before described and illustrated in
5 the accompanying Drawing, that is to say, manufacturing the said boxes from short solid wood lengths, by first turning or fashioning the exterior of the said wood lengths, and afterwards boring or cutting out the interior of the said lengths, as described and illustrated.

Secondly, the improvements in machinery for boring or cutting out the
10 interior of short wood lengths for the manufacture of pill boxes and similar boxes, herein-before described and illustrated in the accompanying Drawing, that is to say, constructing, arranging, and actuating the parts of the holders in which the said wood lengths are held during the boring or cutting out of the interior of the said lengths, essentially in the manner herein described and
15 illustrated.

In witness whereof, I, the said John Swainson, have hereunto set my hand and seal, this Eleventh day of June, in the year of our Lord One thousand eight hundred and sixty-three.

JOHN SWAINSON, JUN^R. (L.S.)

20 Witness,

ADAM HOGG,

Cree Woods, Newton Stewart.

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1863.

FIG. 1.



FIG. 2.

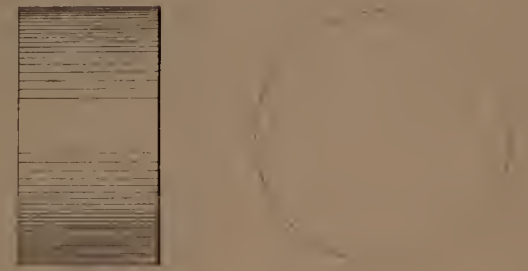


FIG. 3.

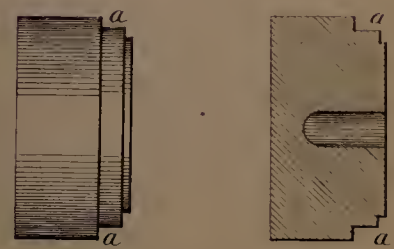


FIG. 4.



FIG. 5.



FIG. 6.

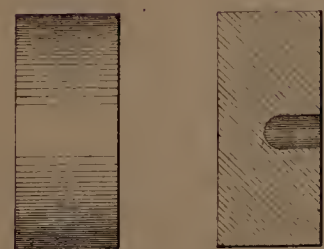


FIG. 7.



FIG. 8.

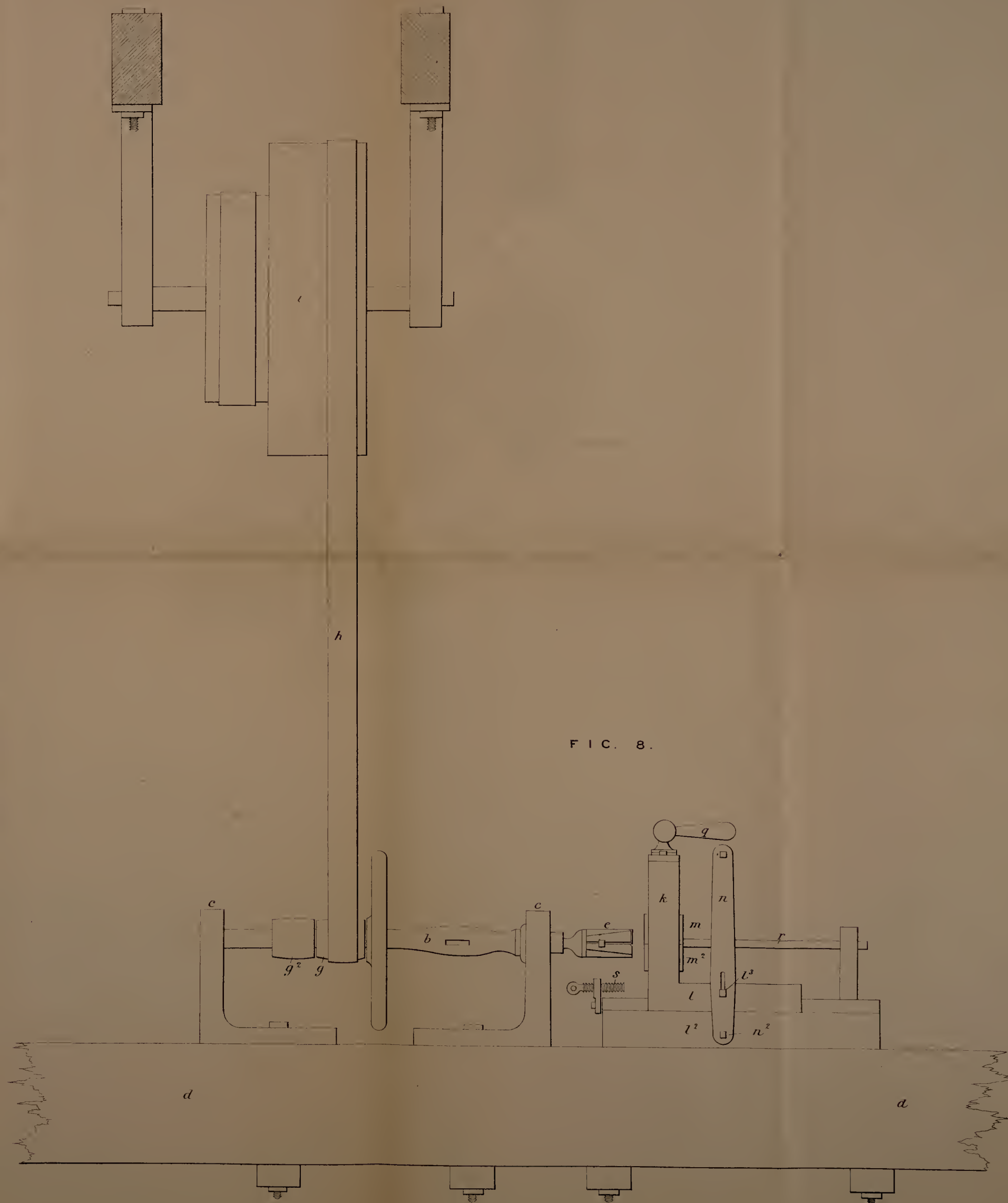


FIG. 10.

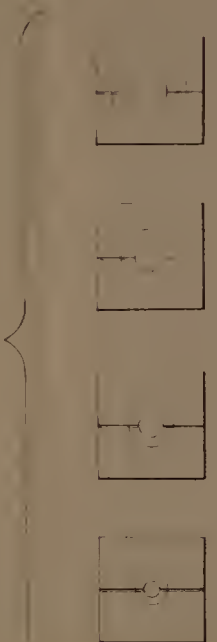
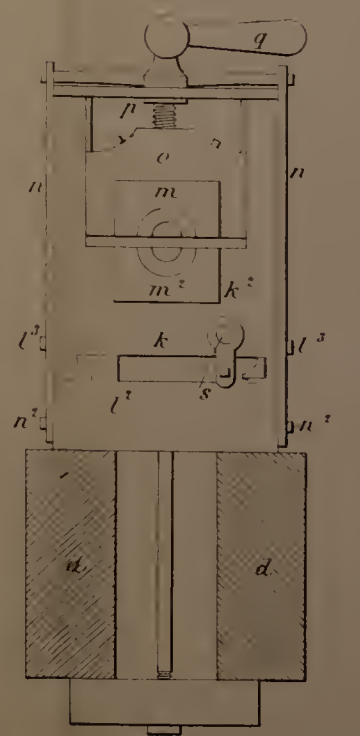


FIG. 9.



Scale, Figs 1, 2, 3, 4, 5, 6, 7, Full Size, Figs. 8, 9, 10, 2 1/4 inches to a Foot

